NorthWest Arkansas Community College

COURSE GUIDE FOR PHYSICS 1024

PHYSICS AND HUMAN AFFAIRS

Fall 2004

Instructor
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INTRODUCTION

The purpose of this course guide is to provide you with the information that you will need to successfully meet the requirements for Physics and Human Affairs, PHY 1024. It is designed to serve as your reference to course topics that have direct application to you.

GENERAL INFORMATION

Course Title: Physics and Human Affairs  
Course Number: PHYS 1024  
Credit Hours: 4  
Days & Time:  
   Friday, 12:30 – 3:30  
   Monday and/or Wednesday, 1:45 - 3:00 p.m.
Prerequisites: None

Course Description: The great ideas of physics together with their philosophical and social impact. Designed for non-science majors. Will satisfy a 4-hour physical science requirement toward a B.A. degree. Lecture and laboratory.


Resources: In addition to the text, which can be purchased at the Woods Lane Facility & Bookstore, the following supplies are recommended: 
(1) 3×5-index cards. 
(2) Scientific Calculator

Course Rationale: All of us find ourselves as part of a rapidly evolving technological society. As a result, to be successful in whichever area of endeavor we have chosen to pursue, it has become increasingly important that all of us possess a higher level of understanding of basic scientific principles and terminology. This course provides the opportunity to develop this basic understanding and apply it to our everyday experience and societal issues.

Course Goals

▷ To understand how the scientific method can be used to increase our knowledge of workings of the world and the universe.
▷ To describe basic physical processes and relationships.
▷ To learn and develop problem solving strategies.
▷ To be able to communicate this information to others.

Course Units:

Unit 1: The Newtonian Universe - Ch. 1-5
Unit 2: Transition to the New Physics – Ch. 6-9
Unit 3: The Post-Newtonian Universe - Ch.10, 11, 13-16
COURSE REQUIREMENTS AND GRADING

Course Requirements:

1. **Performance:** You start out with **100 performance points.** Your attendance is required for all scheduled class sessions. If you miss a class, **3 points** will be subtracted from your attendance points (1 point for each hour). If you are late or leave early, I will subtract from your performance points in 0.25 increments. If you call me and let me know that you will not be attending and have a legitimate excuse, I will only subtract 2 points. If you miss class on a day in which your Lab is scheduled, an **additional point** will be subtracted if you fail to make it up with the other groups meeting for the same lab. (See Course Calendar) THIS MEANS THAT YOUR PRESENCE IS REQUIRED TO RETAIN YOUR PERFORMANCE POINTS. I, as well as other students, have found that excessive talking, whispering, laughing, and carrying on during my lecture is very disruptive. Such **conduct** will result in the loss of **1 performance point** per participant per occurrence at my discretion. THIS MEANS THAT YOU MUST NOT BE DISRUPTIVE IN CLASS TO RETAIN YOUR PERFORMANCE POINTS.

2. **Homework:** Homework sets for each chapter will be due at the latest by Thursday morning for a total of **300 points.** Half credit will be given for the problem set if it is turned on the day that I pass the set back to the class. No late problem sets will be accepted once the set has been returned and added to the **Library Folder.** If you are absent on the day that a problem set is due, you can arrange to have a classmate turn it in for full credit. Any work that is illegible or NOT presented in a clear, understandable form will not be graded. So, BE NEAT and ORGANIZED!

3. **Labs:** Eight Labs are required for this course for a total of **120 points** (15 each). You are allowed to work together as a group and turn in one lab form for your group. Each receives the same score so make sure that all are equally contributing to the group effort. The labs are designed to give you experience with the subject matter you are learning in connection with each unit. **YOU MUST COMPLETE ALL LABS TO RECEIVE A PASSING GRADE FOR THIS COURSE. ANY WORK THAT IS ILLEGIBLE WILL NOT BE GRADED. SLOPPY GRAPHS WILL NOT BE GRADED.** So again, BE NEAT!

4. **Unit Tests:** You will be taking 3 two-hour unit tests throughout the semester. Each is worth 100 points for a total of **300 points** and covers the topics presented in each unit. You will be allowed to develop one 3x5 index card as a personal note card for each test. Each note card can be used for any subsequent test. Make up tests will be penalized 10 points without prior arrangement or a verifiable doctor’s excuse. Corrections will be allowed for addition points.

5. **Final Exam:** A comprehensive final exam worth **200 points** will be given during the scheduled final exam time. It will be similar to and/or based upon the 3 Unit Tests given during the semester.

Grading:

<table>
<thead>
<tr>
<th>Contribution</th>
<th>Total Points Possible</th>
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</thead>
<tbody>
<tr>
<td>Performance</td>
<td>100</td>
</tr>
<tr>
<td>Homework</td>
<td>280</td>
</tr>
<tr>
<td>Labs</td>
<td>120</td>
</tr>
<tr>
<td>Unit Tests (3)</td>
<td>300</td>
</tr>
<tr>
<td>Final</td>
<td>200</td>
</tr>
</tbody>
</table>
Total: 900 Points

Provided the required criteria for receiving a passing grade are met, a letter grade will be assigned on the basis of where your points accumulation falls within the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>765 - 900</td>
</tr>
<tr>
<td>B</td>
<td>630 - 764</td>
</tr>
<tr>
<td>C</td>
<td>495 - 629</td>
</tr>
<tr>
<td>D</td>
<td>360 - 494</td>
</tr>
<tr>
<td>F</td>
<td>Below 360</td>
</tr>
</tbody>
</table>

OTHER INFORMATION

Attendance: As described in the Student Handbook pg. 40, “Students are expected to attend all classes.” In accordance with this policy, attendance is required and is incorporated into the grading system. In the event that an unavoidable circumstance occurs which necessitates that you miss a class session, you are responsible for:
1. Contacting me by phone or e-mail and letting me know.
2. Obtaining class notes from a fellow student.
3. Making prior arrangements to turn in any work due for that day.
4. Arranging to make up any labs or tests that are missed.

Conferences with Instructor: I will only remain on campus after class by request. I can usually be reached at my home phone otherwise, leave a message if there is no answer.

Academic Dishonesty: According to the Student Handbook:

“Academic dishonesty involves acts which may subvert or compromise the integrity of the educational process at NWACC. Included is any act by which students gain or attempt to gain an academic advantage for themselves or another by misrepresenting their or another’s work or by interfering with the completion, submission, or evaluation of another’s work.”

Acts constituting academic dishonesty are listed in the Student Handbook, p. 174. Any student involved in an act of academic dishonesty is in violation of the Student Code of Conduct and may face sanctions as prescribed in the Student Handbook.

Inclement Weather Policy: It will be the general policy that if the school does not close, we will be meeting for class. The decision to close the school due to bad weather and/or emergency situations is made by the President of NWACC. Usually, this information is available by 6:00 a.m. for day activities and 3:00 p.m. for evening activities. Information regarding school closing can be obtained through the College Hotline, 619-4377, or through broadcast by KURM 790AM in Rogers.

Caveat: This syllabus represents my intent for the course at the time of planning. In the event that I find it necessary to make any changes, you will be notified.